

III-G Discounted Cash Flow Analysis

III. G. DISCOUNTED CASH FLOW ANALYSIS

AEP Texas' Rebuttal evidence in this Part III-G is sponsored by five expert witnesses. Drs. Douglas W. Caves, B. Kelly Eakin and Mark E. Meitzen explain the flaws in BNSF's arguments concerning the prospect of future productivity gains for the TNR, and the consistency of AEP Texas' generalized percentage reduction methodology for allocating rate relief with Ramsey pricing principles. Mr. Thomas D. Crowley rebuts BNSF's claims with respect to AEP Texas' calculation and amortization of the TNR's capital costs, and explains the flaws in BNSF's purported comparison of the TNR's and BNSF's relative operating expenses and future productivity prospects. Mr. William W. Whitehurst of W. W. Whitehurst & Associates rebuts BNSF's challenges to AEP Texas' proposed index for projecting future charges in TNR operating expenses, and sponsors the methodologies used to calculate that index and the marginal cost component of the generalized percentage reduction methodology. The qualifications and verifications for these witnesses appear in Part IV.

1. Cost of Capital

a. AEP Texas Refinancing

On Opening, AEP Texas presented evidence showing that the TNR – like any efficient railroad in a similar position – would take advantage of falling interest rates and refinance its construction debt in 2002, the second full year of its operation. The

ability of a SARR to lower its long-term capital costs in this manner was acknowledged by the Board in *West Texas Utilities*, 1 S.T.B. at 712.

In its Reply, BNSF argues that the use of a single year's cost of capital for any purpose is invalid, and challenges the premise that the TNR could find a market for its \$1.05 billion in debt. *See* BNSF Reply at III.G-1 to 3. Despite the clear evidence of the recent trend toward lower actual capital costs, BNSF would saddle the TNR with the average of the rail industry's cost of capital in 1998-2002 over the entire 20-year DCF period. BNSF's artificial inflation of the TNR's capital costs should be rejected.

Last month, the Board issued its determination of the rail industry's cost of capital for 2003. *See* Ex Parte No. 558 (Sub-No.7), *Railroad Cost of Capital – 2003*, Decision served June 28, 2004. That decision confirmed the favorable trend in railroad capital costs, finding the composite after-tax average for 2003 to be 9.4%, lower than the 2002 average of 9.8%. In its Rebuttal calculation of SAC, AEP Texas has incorporated the 2003 cost of equity as determined by the Board (12.7%), so that the equity capital costs for the TNR in fact are based on a multi-year average,¹ as BNSF claims is the preferred approach. BNSF Reply at III.G-1 to 2.

BNSF also claims that there is no evidentiary support for the proposition that the TNR would be able to refinance its debt in 2002. *Id.* at 2. However, a review of

¹ It is not necessary to use multiple year debt costs. In the refinancing scenario, the refinancing reflects the entire turnover of debt that initially was incurred over a 30-month construction period through application of individual year's debt rates.

publicly available data for Class I railroad debt issued over the years 1998-2003 shows that the major railroads (including BNSF) were able to go to the market and obtain \$14.3 billion in debt financing over that time period, an average of almost \$2.4 billion per year.² The current market is easily able to accommodate the \$1.05 billion in debt needed by the TNR to refinance in 2002.

The TNR's equity capital costs and refinanced debt costs are supported by substantial evidence, and should be accepted by the Board in its SAC determination.

b. Floating Equity Cost

As it tried to do in *TMPA*, BNSF includes a 4% premium charge purportedly to cover the "significant fees" that the TNR supposedly would have to pay in connection with the issuance of equity. BNSF Reply at III.G-3. BNSF acknowledges that the Board rejected this add-on in *TMPA* (as it did in *WPL*), but claims here to have "offered additional support for the financing costs it posits." *Id.* However, the "support" offered by BNSF is {

} BNSF Reply at III.D-128. In *TMPA*, BNSF offered a verified statement by the same { } in support of its floating equity charge, and it was

² See AEP Texas Reb. Exhibit III-G-13. Exhibits III-G-1 through III-G-12 are included in AEP Texas' Opening submission.

rejected by the Board. *TMPA* at 162. A vague and unrecorded conversation cannot succeed where sworn testimony already has failed.

The only other “evidence” that BNSF offers in support of its floatation charge is a May 18, 2004 *Wall Street Journal* article discussing the state of the entire investment banking community.³ In *PSCo/Xcel*, where the Board again rejected the inclusion of such charges, the Board stated that “absent evidence of the existence and size of equity floatation fees associated with equity issuances of a similar size, the Board will not depart from its precedent.” *Id.* at 76. BNSF’s *Journal* article does not come close to meeting this criteria.

BNSF states that the current cost of capital does not include equity financing costs because no Class I carrier has issued new equity in the last three years. BNSF Reply at III.G-3. BNSF is correct that the railroad industry cost of equity does not include an equity financing cost component, but the method it applies to introduce such a component is incorrect. The last STB industry cost of capital decision that included an equity cost of capital component was very clear on both the underlying assumptions and the process used to derive the component.⁴ Equity flotation fees for the new equity issued that year were estimated to be 3.9% of the total amount raised. This percentage is multiplied by the percentage contribution of the issuing carriers’ market valuation to the

³ See BNSF Reply at III.D-128.

⁴ Ex Parte No. 506, *Railroad Cost of Capital – 1991*, 8 I.C.C. 2d 402 (1992).

overall industry market valuation, which produces the equity cost component for this specific transaction to the overall industry. This percentage is added to the weighted average industry equity cost of capital. Rather than simply adding the financing fee to the investment base of the stand-alone railroad, as BNSF has done, AEP Texas has followed the procedures outlined by the STB in the 1991 Cost of Capital decision. The results of this analysis are shown in Table III-G-5 below and Rebuttal Exhibit III-G-14 for the construction years 1998, 1999 and 2000 and for the refinancing year 2002.

TABLE III-G-5 TNR Weighted Average Cost of Equity with Equity Flotation Costs Applied Correctly Under STB Procedures				
	<u>Construction Years</u>			<u>Refinancing Year</u>
Item	1998	1999	2000	2002
1. Weighted Average Cost of Equity	13.11%	12.90%	13.90%	12.60%
2. Weighted Cost of Equity Flotation	0.01%	0.09%	0.17%	0.13%
3. Total Weighted Ave. Cost of Equity	13.12%	12.99%	14.07%	12.73%
4. Rounded	13.1%	13.0%	14.1%	12.7%

2. Inflation Indices

As AEP Texas noted on Opening, forecasts of the actual effects of inflation on the TNR's operating expenses, capital costs and land values are important components of the overall DCF analysis.

a. Operating Expenses

In its Opening evidence, AEP Texas explained how the fundamental disconnect between the index used by the Board to forecast changes in future SARR coal revenues (the EIA transportation rate forecast) and the index used in prior cases to forecast future changes in SARR operating expenses (the RCAF unadjusted for productivity) distort the SAC analysis and undermine the SAC test as an unbiased determinant of maximum reasonable rates on captive coal traffic.

Specifically, by adjusting operating expenses using an index (the RCAFU) that assumes that the SARR will not realize any future productivity gains while adjusting revenues using an index (the EIA forecast) that both assumes such gains exist *and* assumes they will be shared with the SARR's customers through moderated rate increases, the Board's previous approach guarantees that operating costs will rise faster than revenues *regardless* of the SARR's configuration, traffic group or operating plan. *See* AEP Texas Op. at I-25-26; III-G-9. AEP Texas developed and presented a methodology that cures this fatal circularity while still recognizing that, as an optimally efficient railroad, the SARR probably would not realize productivity gains of the same magnitude as may be expected of Class I railroads generally. *Id.* at III-G-9 to 20. A key component of the methodology is an historic comparison between general railroad productivity gains as measured by the RCAFA, and coal-specific productivity gains reflected in the EIA rate forecast. *Id.*, Exhibit III-G-1.

On Reply, BNSF levels three criticisms against AEP Texas' approach to indexing operating expenses for the TNR:

1. The EIA analysis allegedly is not really a calculation of coal-related productivity (BNSF Reply at III.G-5);
2. AEP Texas allegedly misinterpreted the way in which EIA employs its productivity measure (*id.*); and
3. AEP Texas' methodology does not respect the supposed "fundamental difference" between existing railroads and a SARR with regard to expected future productivity improvements (*id.* at III.G-6).

In lieu of the methodology sponsored by AEP Texas, BNSF offers to reflect future productivity gains by the TNR through an adjustment {

} *Id.* at III.G-19.

As explained below, BNSF's criticisms of AEP Texas' operating expense indexing formula are unfounded, and its own proposed adjustment is a result-oriented fig leaf designed to perpetuate the bias inherent in the approach followed in previous coal rate cases.

i. The Need for Consistency In SARR Revenue And Operating Expense Forecasting

There can be no dispute that the practice of indexing SARR revenues using the EIA forecast and operating expenses using the RCAFU biases each and every SAC analysis squarely in the defendant railroad's favor. In virtually every recent coal rate

proceeding wherein the practice was followed, the disconnect drives up the SAC rates and reduces or reverses any surplus of SARR revenues over costs over the course of the DCF period. *See Duke/CSXT* at 32; *CP&L* at 30; *Duke/NS* at 39; *TMPA* at 160. Since SARR coal volumes are stable or increase in almost every case and capital costs are fixed for most of the DCF period, the inconsistency in indexing methods is the single greatest contributing factor to these skewed results.

The built-in, artificial under-recovery of the SARR's costs over the DCF period is indicative of a number of conceptual economic flaws created by the disparate forecasting treatment accorded SARR revenues and operating expenses.

First, the asymmetric use of productivity gains to moderate revenue growth while ignoring such gains in measuring operating expense growth creates an inherent bias that inevitably weakens the viability of the SARR (regardless of its configuration, size or traffic profile), and is inconsistent with its presumed role as a contestable railroad. This, in turn, undermines the usefulness of the SAC test as a regulatory tool.⁵

Second, because no economically rational firm will remain in business if it cannot at least cover its average variable costs (*i.e.*, operating costs) over the long run, the asymmetric use of productivity guarantees that every SARR is pushed toward non-viability over the course of the DCF period, even as basic SAC theory assumes the

⁵ Rather than restraining captive shipper rates, under these circumstances the SAC analysis functions more like a phase-in tool that sets a pace for rate increases but offers little in the way of ultimate limits.

SARR's perpetual existence. In an unbiased framework, the prospect of eventual non-viability might suggest that the SARR as posited cannot be sustained, and that some components (*e.g.*, traffic assumptions, revenue requirements, system configuration, etc.) must be altered in a way that leads to a different verdict on the rate under challenge. When that is the pre-ordained outcome of the SAC analysis, however, the legitimacy and integrity of the rate-making model becomes suspect.

Third, the revenue/operating expense disconnect begs the obvious question of what sources of productivity growth are presumed to be present on the revenue side but are not worthy of recognition on the cost side. If productivity gains that historically have and in the future are projected to offset revenue growth are driven by the same factors (*e.g.*, economies of density, technological advances, cost-effective asset replacement, management innovations, etc.), there is no logical or empirical reason to exclude the same gains from the operating expense side of the equation. Moreover, in the case of both revenue and cost indexing in the DCF model, the costs of achieving productivity growth are built into the index, so there is no need to separately consider the costs of generating this productivity growth.

**ii. The EIA Adjustment Is a Measure
Of Total Factor Productivity**

BNSF is incorrect in its assertion that the EIA measurement is not an explicit measure of productivity or, alternatively, that the EIA measurement only *infers* productivity improvement (BNSF Reply at III.G-7). The EIA measurement of

productivity growth, which is based on the difference between input price growth and output price growth, reflects a methodology that is well-founded in economic theory and has been applied in a number of contexts. From the academic literature, Jorgenson and Griliches confirm that “in general, any index of total factor productivity can be computed either from indexes of the quantity of total output and total input or from the corresponding indexes,”⁶ and Christensen and Jorgenson state that “total factor productivity is defined as the ratio of real product to real factor input, or equivalently, as the ratio of the price of factor input to the product price.”⁷ As an example of the method’s application, in its price cap proceedings, the Federal Communications Commission computes productivity growth for the local exchange telecommunications industry using the same approach.⁸ The Board’s predecessor likewise endorsed a total factor approach to measuring productivity in adopting the adjustment that is used in calculating the RCAF. *See Railroad Cost Recovery Procedures – Productivity Adjustment*, 5 I.C.C. 2d 434, 471 (1989).

⁶ Dale W. Jorgenson and Zvi Griliches, “The Explanation of Productivity Change,” in Dale W. Jorgenson, *Productivity, Vol. 1: Postwar U.S. Economic Growth* (The MIT Press, 1995), pp. 56-57; originally published in *Review of Economic Studies*, 34, No. 99, (July, 1967).

⁷ Laurits R. Christensen and Dale W. Jorgenson, “U.S. Real Product and Real Factor Input, 1929-1967,” *Review of Income and Wealth*, ser. 16, no. 1 (March, 1970), p. 42.

⁸ Thomas C. Spavins, and James M. Lande, “Total Telephone Productivity in the Pre and Post-Divestiture Period,” FCC CC Docket 87-313, *Supplemental Notice of Proposed Rulemaking*, Appendix D (1990).

In an effort to find some support for the claim that the difference between input and output prices in the EIA forecast does not reflect productivity, BNSF cites UP's entry into the PRB and the practice of some utility coal shippers to "bundle" captive and competitive plants as hypothetical explanations for EIA's forecast results. *See* BNSF Reply at III.G-7 to 8. BNSF offers no empiric support for the proposition; only the opinion that these events "have likely led railroads to reduce rates" *Id.* However, UP entered the PRB *circa* 1984, so it was a presence during 18 of the 21 years covered by the analysis summarized in AEP Texas' Exhibit III-G-1. And "bundling," to the extent it takes place, hardly is a new negotiating tactic. Although each of these may have had an impact on the rate structure when they were introduced, neither would cause a significant, further series of year-to-year changes beyond the renewal of contracts entered into prior to 1984.

**iii. AEP Texas Neither Misused Nor
Misrepresented the EIA Forecasts**

Next, BNSF charges that {

} BNSF Reply at III.G-8. This simply is not true. As AEP Texas explained in its Exhibit III-G-1, AEP Texas does not use EIA's forecast of future productivity to project TNR productivity gains *per se*. Under AEP Texas' methodology, the *historical* EIA productivity values are benchmarked against the *historical* RCAFA values, and the resulting relationship is then applied to the Global Insight projection of future changes in

the RCAFU generally relied upon by the Board. *See* AEP Texas Exhibit III-G-1 at 19-22 and Exhibit III-G-5.⁹

It also is noteworthy that the effective rate of future productivity growth for the TNR projected by the AEP Texas methodology is *slower* than the EIA forecast addressed by BNSF. According to BNSF, {

} BNSF Reply at III.G-8.

BNSF's illustration effectively confirms the conservative nature of AEP Texas' productivity adjustment. Referencing back to AEP Texas' Exhibit III-G-1, application of the AEP Texas methodology to the Global Insight RCAF forecast yields an imputed annual rate of productivity growth for the TNR of only 1.3%.

Similarly, AEP Texas' Exhibit III-G-4 developed the historical EIA regression analyses for the years 1981-2002. The EIA average historical rate of productivity improvement calculated there is 2.4%, with a standard deviation of 0.16. *Id.* at 4. Applying a -2 standard derivation to the 2.4% historical annual average would result in a forecasted rate of 2.08%. Again, the 1.3% rate implied for the TNR under AEP Texas' methodology is lower. Thus, by BNSF's own reckoning, the rate of projected

⁹ In this important respect, the AEP Texas methodology is substantively different from that addressed by the Board in *PSCo/Xcel*. *See PSCo/Xcel* at 33-34.

productivity growth for the TNR incorporated in AEP Texas' SAC analysis is lower than EIA's coal-specific forecast for major railroads generally.

**iv. BNSF's Calculated Relationship Between the
TNR's Base Year Operating Expenses and
BNSF's Costs Is Irrelevant And Flawed**

Looking to bolster its claim that the TNR as designed would capture 20 years' worth of productivity gains "up front" and have no opportunities for future efficiencies, BNSF presents a calculation which it says shows that the TNR starts out { BNSF Reply at III.G-9 to 10. BNSF goes on to claim that because it purportedly would take existing railroads 18 years to accumulate a { } the Board is justified in ignoring prospective productivity growth for the TNR (at least on the cost, as opposed to revenue side) for a similar period. BNSF's attempted cost comparison is irrelevant and severely flawed.

The BNSF costing exercise is irrelevant because whether and to what extent a SARR starts out with lower overall operating expenses than the incumbent says nothing about the SARR's opportunity for *future* productivity gains. As a presumptively low-cost, "best practices" carrier focused almost exclusively on coal service, it is to be expected that the TNR's operating expenses will be lower than BNSF's vis-a-vis service to the same traffic group over the BNSF lines replicated by the TNR. However, only circular logic would allow one to conclude – without any evidence – that the initial cost advantage somehow proves the absence of future productivity gains; *i.e.*, that the

advantage presumptively must erode and disappear over time. To the contrary, as the records of retailers such as Wal-Mart and Costco demonstrate, initial efficiency and cost advantages very often are preserved and continue years after market entry. As shown in the next section, very real and demonstrable productivity growth opportunities are present that would enable the TNR to do just that.

Even if BNSF's cost comparison was relevant, however, it nonetheless is rooted in flawed theory and unsound economics, which wholly undermine BNSF's results and the conclusions it draws. BNSF's methodology can be summarized as follows:

{

}

There are several problems with this approach. As a threshold matter, BNSF's declaration that {
} is flatly incorrect. No economist would ever equate {
}, nor would an economist endorse a study based on such an obviously flawed premise. In fact, the very reason that cost allocation is necessary in the first place is that there are components of cost that are not attributable to specific movements of traffic.

¹⁰ See BNSF Reply at III.G-9, footnote omitted.

There is abundant economic literature that makes clear the fundamental difference between { } As observed by Kenneth J. Button, “With several classes of user it is often possible to trace certain components of cost to those responsible but there is still usually a large portion which is untraceable.”¹¹ And further, “One of the difficulties with railway operations is that common costs . . . form a very substantial part of total cost Indirect costs, as defined by the railways (that is, track, signaling and general administration) are not sufficiently fixed costs which are common to all traffic.”¹² BNSF’s assumption that { } can be equated to attributable costs violates this economic principle.

Button’s statements are reminiscent of statements made by J. M. Clark in the 1920’s. Specifically, Clark observed that the assignment of common costs to various individual services “offers great opportunities for the development of arbitrary and fictitious notions of cost, through the necessity of apportioning items somehow, even if there is no satisfactorily scientific basis on which to do it.”¹³ Friedlander expanded on this principle, noting that “various means of prorating the common or joint costs can be used, but all of them have an arbitrary element and hence are dangerous to use in prescribing

¹¹ Kenneth J. Button, *Transport Economics* 80 (Edward Elgar 2d ed. 1993).

¹² *Id.* at 84.

¹³ Ronald R. Braeutigam, citing J. M. Clark, “Learning About Transport Costs,” from Gomez-Ibanez et. al, *Essays in Transportation Economics and Policy*, Brookings Institution Press, Washington, D.C., 1999, p. 61.

rates.”¹⁴ Finally, Stickney, Weil and Davidson point out that “Common costs are allocated to product, but the allocations are more-or-less arbitrary. The distinction also arises in segment reporting.”¹⁵

As the above observations make clear, it defies economic theory to treat { } in the provision of a service. Button suggests an alternative approach: “Economic principles advocate the notion of seeking avoidable costs associated with specific users and then allocating these accordingly.”¹⁶ The avoidable cost, or incremental cost associated with the movement of TNR traffic over BNSF’s lines is comparable to the variable cost of providing the services, { } BNSF’s comparison is thus shown to be meaningless.

Second, even if it were proper to compare top-down { }, BNSF’s statement of { } is erroneous. BNSF’s calculation is presented as follows: { }

¹⁴ Ronald R. Braeutigam, citing Friedlander, “Learning About Transport Costs,” from Gomez-Ibanez et. al, *Essays in Transportation Economics and Policy*, Brookings Institution Press, Washington, D.C., 1999, p. 62.

¹⁵ Clyde P. Stickney, Roman L. Weil & Sidney Davidson, *Financial Accounting* 759 (6th ed.)

¹⁶ *Supra* note 11 at 85.

} See BNSF Reply at III.G-9, n.16.

While BNSF made adjustments to remove the variable portion of “depreciation and lease expenses and return on road property investment costs,” BNSF made no attempt to make any congruent adjustment to remove the fixed portion of those expense categories.

Third, BNSF’s purported calculation of the TNR’s operating expenses is based on the carrier’s own, erroneous modifications to the TNR operating plan and organizational structure, which are treated extensively in Parts III-C and III-D, *supra*.

Both sides of the BNSF equation leading to its { } are unsustainable.¹⁷

When the methodological errors inherent in BNSF’s analysis are corrected, it becomes apparent that BNSF has significantly overstated the difference between its on-SARR operating costs and the TNR’s base year operating costs. Properly computed, the TNR’s starting cost advantage { }. Below is a summary of BNSF’s flawed methodology and the adjustments that would correctly present BNSF’s analysis.

¹⁷ BNSF suggests that if the more realistic and accurate operating expense figures sponsored by AEP Texas are used, “the base year productivity implicit in the TNR’s starting point operations would be even higher.” BNSF Reply at III.G-10. n.17. As shown, BNSF simply calculates a difference in single-year operating costs, not a measure of future productivity gains. Nevertheless, the statement is incorrect on its face since BNSF’s overstatement of its own on-SARR operating costs is even greater than its overstatement of the TNR costs.

depreciation. The resulting variable costs are { } for movements in railroad-provided railcars.

6. AEP Texas next calculated BNSF's weighted average variable cost less road return and road depreciation based on the actual mix of railroad-provided cars { }. The resulting average variable cost is { } actually generated by the TNR traffic group from June 16 through December 31, 2000, to calculate BNSF's avoidable cost of { } to move the traffic. This amount was then annualized to arrive at the 2000 BNSF avoidable cost of { }.
7. Finally, the BNSF avoidable cost of moving the TNR traffic group of { } advantage for the TNR based on BNSF's methodology, corrected for obvious errors in logic and theory.

Details of these calculations are provided in AEP Texas Rebuttal Exhibit III-G-15.

While irrelevant to the issue of future productivity growth opportunities for the TNR, a { } initial operating cost advantage is entirely consistent with the TNR's presumptive status as a least-cost, optionally efficient competition. As shown in the next section, several demonstrable sources of productivity gains would enable the TNR to preserve and continue that cost advantage throughout the DCF period. Even under BNSF's tortured logic, however, at an annual growth rate of { } BNSF and the other carriers would "catch" the TNR in under { } years, after which by BNSF's own

¹⁸ BNSF claims that it would take existing railroads 18 years to close a { } cost gap. See BNSF Reply at III.G-11. The implicit annual pace is { }.

reckoning the TNR would be entitled to the benefits of the same annual productivity growth rate projected for the railroad industry generally, which is significantly higher than the 1.3% rate implicit in AEP Texas' proposed operating cost index.¹⁹

**v. Sources Of Productivity
 Gains For The TNR**

Seizing on the Board's citation of one example of productivity gains that a SARR may be expected to realize,²⁰ BNSF asserts that the only potential source of productivity improvements for the TNR lies in the development of new technology. *See* BNSF Reply at III.G-13. To be sure, new technology does represent one such source. However, the TNR and SARRs generally stand to benefit from other, equally significant productivity enhancements as well.

As a threshold matter, it must be recognized that railroad productivity improvements come from several different sources, not just gains from new technologies as old assets wear out or become obsolete. These sources include:

- Changes in network density
- Economies of scale
- Technological advances
- Production flexibilities

¹⁹ *See* Exhibit III-G-16. According to Global Insight, the average annual projected productivity growth factor implicit in the RCAFA is 2.1%.

²⁰ *See WPL* at 106.

The Board's predecessor recognized that productivity gains emanate from multiple sources. In its decision to implement a productivity adjustment for the RCAF, the ICC rejected the AAR's proposal that only "pure" productivity gains due to technological change should be used for the RCAF productivity adjustment. The ICC noted and agreed with the Concerned Shippers that a more general measurement that captured productivity gains from all sources was the appropriate productivity measure:²¹

Concerned Shippers object to the railroads' proposal to partition total factor productivity and only consider technological change for the purpose of adjusting the RCAF. The shippers contend that such a limited notion of productivity growth violates the cost recovery principle. If there are economies of scale, density and capacity utilization, then scale, density and capacity utilization affect railroad input requirements. But such changes do not affect unit revenues. Thus, productivity gains associated with the aforementioned factors change the ratio of revenues to costs. The productivity adjustment is in their view intended to restore the initial relationship.

We conclude that the productivity measure used to adjust the RCAF should not be limited to the narrow definition proposed by the railroads. As noted, by witnesses Caves and Christensen, while the exact cause of productivity growth may have intrinsic interest, it is not germane to the issue of cost recovery. To the extent that the RCAF index will now be used to reflect changes in output costs, total factor productivity is the relevant measure, since all forms of productivity growth tend to reduce costs.

²¹ *Railroad Cost Recovery Procedures*, 5 I.C.C. 2d 434 at 465-66 (1989).

One source of future productivity gains for the TNR is density economy. Over the course of the DCF period, TNR traffic densities are projected to increase by nearly 29%, from 94.3 million gross ton-miles (GTM) in 2001 to 121.5 million GTM by 2020. *See* Exhibit III-G-17. The change from year-to-year in the number of GTMs per railroad employee is a universally recognized measure of productivity, and a primary productivity indicator on BNSF.²² Over the 2001-2020 time period, GTMs per employee on the TNR are forecasted to increase at an average annual rate of 0.94%. *Id.* Thus, demonstrable economies of system density indicate productivity gains in this area alone that amount to a major share of the total average productivity growth for the TNR that is implicit in the methodology sponsored by AEP Texas. As discussed below, the balance easily is covered by anticipated locomotive technology improvements, information technology innovations and production flexibilities.

Locomotive upgrades and innovation accounts for another source of productivity gains for the TNR. In its Reply (at III.G-12 to 14), BNSF mischaracterizes the role of the 20-year BNSF locomotive lease that AEP Texas selected as a model for TNR lease costs,²³ to deny the TNR any benefit from future improvements in locomotive technology. As the structure of that lease reflects, however, the TNR would not take delivery in 2000-2001 of all the road locomotives that will be needed in the peak traffic

²² *See* AEP Texas Reb. Workpapers Vol. 1, p. 00249.

²³ *See* AEP Texas Reb. Workpapers Vol. 4, pp. 01474 - 1518.

year (2020). As shown in AEP Texas Rebuttal Exhibit III-C-3, the TNR on average will add 3.2 new road locomotives to its base fleet each year, as traffic growth points to additional power needs. This practice is typical of railroads generally, and is accommodated by the master lease-plus-supplements structure of the BNSF arrangement on which the TNR's locomotive acquisition terms are patterned. As the TNR operating plan is designed around the use of the most efficient locomotives available (*see* AEP Op. Part III-C), it is reasonable to assume that the locomotives that will be added in the future likewise will be the most efficient units available at the time they are needed.²⁴

Additionally, as shown in Rebuttal Exhibit III-C-3, over the course of the DCF period the TNR will meet peak traffic demands in each year by securing an additional 13-17 locomotives as supplemental power under short-term leases. Further opportunities for productivity gains are presented through these short-term arrangements.

Improvements in information technology represent yet another source of productivity gains for the TNR. As was the case in *WPL* (at 106), the TNR will replace its information technology assets every five years. Even if the productivity impact of this

²⁴ Thus, the TNR will benefit from future locomotive innovation *even if* it elected not to terminate its lease on older units early in order to take advantage of more efficient locomotives. As discussed in the text, however, as a rational economic actor the TNR still would be expected to upgrade its fleet (and pay the associated lease termination costs) if an overall analysis of the relevant economics showed a net benefit from doing so.

program was only half of that implied by the Board's *WPL* ruling,²⁵ when combined with prospective locomotive modernization and economies of increased density it is more than enough to confirm the legitimacy of the 1.3% average annual productivity growth rate implicit in AEP Texas' operating expense indexing methodology.

The TNR also will experience productivity gains through enhanced production flexibilities, as over time the TNR's personnel will learn how to better utilize the asset configuration they possess. By its nature, this largely is a trial-and-error and learning-by-doing process that will occur even in light of the fact that the TNR is assumed to begin life as an optimally efficient railroad. In fact, this effect may be magnified for the TNR, which has a large percentage of new assets whose use must be mastered to achieve maximum efficiency. In this area, above-average productivity gains potentially could be realized by the TNR.

A major fallacy that runs through BNSF's claims regarding productivity on the TNR is the notion that railroad productivity opportunities only arise when assets are replaced due to age or obsolescence.²⁶ Because the TNR starts out as a "new" railroad,

²⁵ In *WPL*, the shipper argued for adjusting stand-alone operating expenses at the rate of 1.5% per year, based on the defendant's internal forecast. According to the Board, the defendant sought an escalation rate twice as high. *WPL* at 106. In ruling for the shipper the only SARR productivity improvement identified by the Board was a quintennial turnover of information technology; this SARR feature alone thus was worth up to 1.5% in annual productivity growth.

²⁶ The Board has observed in past cases that railroads "make changes incrementally as older technology assets wear out or become obsolete." *CP&L* at 27-28. However, the
(continued...)

this allows BNSF to argue that there is little room for future productivity gains. See BNSF Reply at III.G-12 to 16. Nevertheless, it remains a fallacy.

An economically rational firm, including the TNR, will replace assets when it is beneficial to do so, regardless of the age of the asset. Generally, a firm will invest in new assets if the expected total cost of producing with the new assets is less than the variable costs of producing with existing assets, regardless of the remaining life of the existing assets. Undepreciated amounts of old assets are irrelevant to the investment decision.²⁷

²⁶(...continued)

Board has never held that railroads *only* realize productivity gains in this manner, and as explained in the text, economic theory and literature are soundly to the contrary.

²⁷ Professor Alfred Kahn states this basic principle:

The way for a company to decide whether to replace a piece of machinery (or plant or other equipment) is to compare the average variable cost of producing with it (AVCo) with the average total cost of production with new equipment (ATC_n). Only the variable costs of the old can be saved by turning to the new: the choice therefore is between continuing to incur those AVC, on the one hand, or incurring the ATC – including the capital costs as well – involved in purchasing a new machine. If the AVCo are smaller than the ATC_n it is economical to continue to use the old capital goods. But if, *regardless* of the fixed costs on the old, the AVCo are the greater, it is foolish not to scrap; every moment of continued production with the old means a greater drain on the company's resources, a greater avoidable cost of production, than would be involved in replacement.

In either event, the continuing, fixed costs of the old equipment – the depreciation that may not yet have been fully

(continued...)

When productivity gains are used to offset revenue increases over the DCF period – the effect of using the EIA forecast to project future TNR coal revenues – no requirement is imposed by the SAC test that the specific costs of acquiring replacement assets or any other costs associated with generating those productivity gains be quantified or otherwise reflected in the DCF calculation. Therefore, BNSF’s criticism that the structure of the DCF model does not allow for the replacement of less efficient assets prior to the end of their accounting life (BNSF Reply at III.G-20) is not valid. Productivity growth (through asset replacement and other factors) is presumed to be generated by the TNR over the DCF period when the EIA forecast is used to project revenues. In the interests of symmetry and the integrity of the SAC test the application of productivity growth to operating cost inflation must be afforded the same treatment.²⁸

²⁷(...continued)

recovered, the return on net investment not yet fully written off, interest on debt already incurred—are irrelevant to the decision. Sunk costs such as these are bygones, unchangeable past history, and best forgotten. The way to maximize profit is to minimize the variable, or incremental, or avoidable costs of production (since the others are fixed anyway): and that means the variable costs for existing plant and the total costs for new.

Alfred E. Kahn, *The Economics of Regulation, Principles and Institutions*, Massachusetts Institute of Technology, 1988, p. 118.

²⁸ Conversely, if BNSF’s logic is upheld, there can be no basis for offsetting future TNR revenue increases by the productivity growth implicit in the EIA forecast.

vi. BNSF's Criticism Of AEP Texas' Age Of Assets Analysis Has No Merit

On Opening, AEP Texas showed that even though the comparison should not be considered a major factor in the productivity forecast analysis, the differences in the ages of assets between a coal-focused SARR and a Class I railroad are not so pronounced as to justify ignoring productivity gains for the SARR while fully recognizing them for its Class I counterpart. AEP Texas Op. at III-G-14 to 16 and Exhibit III-G-6. On Reply, BNSF approved of AEP Texas' methodology "in a simplistic world" (Reply at III.G-19), but went on to argue that distortions caused by "the accounting for recent railroad mergers and changes in the treatment of removal costs" invalidates AEP Texas' assets age conclusion. *Id.* In point of fact, it is BNSF's criticisms that are invalid.

Instructions for use of the purchase accounting system in the case of a railroad merger or acquisition are set out in the Uniform System of Accounts for Railroad Companies at 49 C.F.R. Part 1201, Instruction 2-15. As set forth therein, the effect of the purchase accounting adjustments on the books of the merged railroad are as follows:

1. The property accounts are adjusted to reflect fair market value at the date of acquisition.
2. Accumulated depreciation is written down to zero.
3. Annual depreciation is calculated on the fair market value of the property accounts over the remaining useful life of the acquired assets.

The procedure described above is *no different* from the way a railroad would account for assets purchased on the open market. That is:

1. The railroad would pay fair market value at the date of acquisition.
2. Accumulated depreciation (if any) would be written down to zero.
3. Annual depreciation would be calculated based on the purchase price (fair market value) over the expected remaining useful life of the acquired assets.

The purchase accounting adjustment for mergers has no distorting effect on a depreciation-based asset age calculation, as it is functionally identical to the entries made at any point in time by the same railroad for the acquisition of partially depreciated property. Indeed, BNSF's claim here that purchase accounting distorts asset accounting and depreciation stands in stark contrast to the railroad industry's unified position in merger and revenue adequacy proceedings, where they have proclaimed (and the Board has endorsed) the propriety of purchase accounting adjustments.²⁹

The "changes in the treatment of removal costs" likewise have no effect on the validity of AEP Texas' age of assets analysis. Here, BNSF is referring to a recent change in FAS No. 143, *Accounting for Asset Retirement Obligations*. For entities on a calendar year basis, FAS 143 is mandated effective as of calendar year 2003. However, the age of assets analysis presented in AEP Texas' Exhibit III-G-6 utilizes data for calendar year 2002, which predates the implementation of FAS 143. The change in

²⁹ See, e.g. F.D. No. 33388, *CSX Corp. and CSX Transp., Inc., – Control and Operating Leases/Agreements – Conrail Inc.*, Decision served July 20, 1998 at 63-64; Ex Parte No. 483, *Railroad Revenue Adequacy – 1988 Determination*, 6 I.C.C. 2d 933, 939 (1989).

removal cost accounting that BNSF raises as a potential distorting influence in fact has no effect on AEP Texas' comparative age of assets calculations.

**vii. BNSF's Proposed Productivity "Adjustment"
Is An Empirically Unsupported Ruse**

In an exercise essentially designed to perpetuate the contradictory (from a productivity standpoint) treatment of projected revenues and operating expenses in the DCF model, BNSF purports to identify some "potential technological improvements that could increase productivity" (BNSF Reply at III.G-13). Predictably, it finds precious few, and gratuitously offers to begin applying what it terms "the EIA productivity adjustment" to some categories of TNR operating expenses starting in { } of the DCF period. *Id.* at III.G-13 to 18. BNSF's real point, however, is in its closing sentence: "Including these productivity improvements changes the DCF results by about { } demonstrating that the Board's prior reliance in the RCAF-U was appropriate." *Id.* at III.G-19.

BNSF's fig-leaf adjustment is supported solely by narrative and a single citation to a newspaper article. None of its conclusions are supported by empirical evidence, or any real analysis of the recognized sources of productivity improvements beyond operating service unit costs. And the "analysis," such as it is, is rife with omissions, ambiguity and contradictions. In particular:

- BNSF never explains just how it calculates the specific productivity adjustment, simultaneously stating that it "appl[ied] the RCAF adjusted for

productivity” and that it applied “the EIA productivity adjustment.” *Id.* at III.G-17.

- BNSF arbitrarily starts conceding productivity improvements in { } even though the Board in *WPL* acknowledged that information technology assets were replaced every five years (as they are on the TNR) and the productivity-reflecting UP index in that case was applied starting in Year 1.
- BNSF ignores altogether the meaningful productivity improvements resulting from increased economies of density, which on the TNR likewise are shown to begin in Year 1. *See* AEP Texas Reb. Exhibit III-G-17.
- Even as limited to technology-related improvements, BNSF’s judgments are wholly arbitrary, as virtually every category of operating expense addressed (BNSF Reply at III.G-15 to 17) is affected to some degree by information technology.

The BNSF “adjustment” is unsupported by any meaningful evidence, and does not even address – much less ameliorate – the disconnect between the EIA rate forecast and the RCAFU. Indeed, its sole purpose appears to be to perpetuate it. It is not worthy of serious consideration.

viii. Summary

In adopting the EIA coal rate forecast as the measure of future revenue growth for SARRs like the TNR, the Board has accepted the presumption that there will be improvements in productivity realized by the SARR that will be passed through to its shippers. As a matter of basic economics and in the interests of the integrity of the SAC test as an unbiased regulatory tool, those same productivity gains must be recognized in the projection of future charges in operating costs. The methodology sponsored by AEP Texas here is the only credible evidence of record on this issue. In its Rebuttal DCF

model, therefore, AEP Texas continues to apply an adjusted RCAF using the methodology set forth in Exhibit III-G-16.³⁰

b. Road Property and Land

BNSF accepts AEP Texas' approaches to the development of inflation indices for road property assets and land. *See* BNSF Reply at III.G-20 to 21.

3. Tax Liability

AEP Texas and BNSF are in agreement as to the proper treatment of federal and state taxes payable by the TNR.

4. Other

a. Capital Cost Recovery

Contrary to BNSF's assertion (Reply at III.G-21), AEP Texas did not modify the Board's established economic depreciation methodology in calculating the capital recovery costs for the TNR. As discussed below, AEP Texas simply tailored aspects of its presentation of capital recovery costs in consideration of the specific evidentiary circumstances of this case.

³⁰ Exhibit III-G-16, which was originally submitted as an *errata* to AEP Texas' Opening evidence, corresponds to Exhibit III-G-5, with one technical correction to reflect the fact that AEP Texas' calculation of maximum reasonable rates extends back to the Second Quarter of 2000. This correction has no effect on the DCF analysis or any other elements of AEP Texas' SAC calculation. The data in Exhibit III-G-16 has been updated to include the 1Q04-3Q04 RCAFU adjustments, as set forth in AEP Texas' Rebuttal electronic workpaper file "Exhibit III-G-16.xls."

As discussed at pp. III-G-1 to 3, *supra*, the refinancing of the TNR's debt in 2002 is a feature of AEP Texas' SAC analysis that is well-supported by the recorded trend in railroad capital costs and the practices of existing Class I railroads such as BNSF. It is entirely appropriate to reflect that refinancing by dividing the DCF period into two segments, and display the results of the model accordingly. Likewise, the use of an 83-quarter DCF period (which BNSF accepts³¹) is consistent with the fact that while AEP Texas' claim period commences in mid-June, 2000, the Board's DCF analysis is carried out principally on a full calendar year basis.³²

The TNR debt is amortized over the life of the assets that were purchased or constructed with the funds raised by the debt issuance, rather than the fixed 20-year term of the DCF model. This is consistent with the practices of Class I railroads generally, which are issuing debt with terms longer than 20 years. *See* Rebuttal Exhibit III-G-13, column (5).³³ For purposes of the SAC calculation, the debt which remains unamortized at the end of the DCF period is captured in the component of the DCF model that

³¹ *See* BNSF Reply at III.G-23.

³² BNSF also does not object to AEP Texas' conversion of the DCF from Lotus to Excel. *See* BNSF Reply at III.G-23.

³³ This evidence rebuts BNSF's suggestion that debt terms in excess of 20 years could not be arranged. BNSF Reply at III.G-23. BNSF also incorrectly states that AEP Texas amortized the TNR debt over 212 months. *Id.* On Opening, the correct amortization period under a life-of-assets approach was 212 quarters, or 53 years. On Rebuttal, the revised mix of assets has changed the amortization period to 216 quarters or 54 years.

addresses and values the presumed perpetual life of the SARR (*see* Exhibit III-H-3), so all TNR debt is serviced in AEP Texas' SAC analysis.

In its Reply (at III.G-24), BNSF criticizes AEP Texas' treatment of initial hiring and training expenses as a component of the start-up investment in the TNR, to be capitalized as an asset and recovered over a period of time. BNSF argues that these expenses should be treated as operating costs to be expensed fully in the period they are incurred. Such treatment was approved by the Board in *Duke/CSXT* and *PSCo/Xcel*. The problem with this approach, however, is that on the TNR these costs are incurred prior to the start of the stand-alone railroad. BNSF's proposed treatment is inconsistent with Statement of Position 98-5 from the American Institute of Certified Public Accountants, which was introduced into evidence by BNSF on Reply. For the TNR, all training and recruiting costs occur *prior* to the commencement of operations, not in the first year of operation as suggested by BNSF. These costs are incurred prior to the start of operations and paid for by the issuance of debt and equity. The addition of new capital adds to the investment base of the TNR, and there is no accounting amortization in the periods after operations commence. This treatment fully complies with Statement of Position 98-5³⁴ and is consistent with GAAP.

³⁴ *See* BNSF Reply electronic workpaper file "Support for expending start-up costs.doc," p.1.

AEP Texas' approach also adheres to the guidance of the Internal Revenue Service in its Publication 535, Business Expenses, regarding the treatment of start-up training for purposes of income taxes.³⁵ Based on the above, in this Rebuttal start-up expenses for the TNR continue to be capitalized and amortized over five years, resulting in annual amortization expense of \$2.95 million.

b. Reparations

Based upon its fundamentally and extensively flawed SAC presentation, BNSF denies that any reparations for past overcharges are due AEP Texas. Therefore, AEP Texas' evidence concerning the proper calculation of reparations stands as the only evidence of record before the Board.

5. The Allocation of Rate Relief

The evidence presented by AEP Texas on Opening and here in Rebuttal conclusively demonstrates that properly calculated stand-alone revenues for the TNR significantly exceed costs in each year of the DCF period. Therefore, it is necessary to address the proper method to allocate the required revenue reductions among the members of the TNR traffic group, including AEP Texas. On Opening, AEP Texas explained why the "equal percentage reduction" formula used by the Board in prior cases was inconsistent with Ramsey pricing principles and susceptible to manipulation. AEP

³⁵ U.S. Internal Revenue Service, *Publication 535: Business Expenses, For use in preparing 2003 Returns*, pp. 33-35.

Texas offered an innovative alternative designated the generalized percentage reduction methodology, which addressed and solved both problems. *See* AEP Texas Op. at III-G-25 to 33.

a. The Percentage Reduction Methodology Is Inconsistent With Ramsey Principles

BNSF assaults its own straw man by first postulating that the rationale for AEP Texas’ alternative to the percentage reduction methodology is to address “gaming” of the rate review process by defendant railroads, then showing that BNSF is not guilty of gaming in this case because the challenged rates do not reflect a precipitous increase following unsuccessful contract negotiations. *See* BNSF Reply at III.G-24 to 26. However, even a casual reading of AEP Texas’ Opening evidence shows that the gaming concern is not the sole or even principal justification for AEP Texas’ Generalized Percentage Reduction Methodology (GPRM).

To be sure, AEP Texas noted the Board’s acknowledgment in *CP&L* that its equal percentage reduction formula was susceptible to manipulation and distortion. *See* AEP Texas Op. at III-G-25 to 26, *citing* *CP&L* at 31-32. However, AEP Texas did not accuse BNSF of attempting to game the process in this case. Rather, the need for an alternative to equal percentage reduction was grounded on the inconsistency of that formula with basic Ramsey pricing principles. *Id.* at III-G-26 to 30. As AEP Texas explained:

There is a consensus among economists that fixed cost recovery poses a regulatory dilemma. Setting rates at marginal cost is economically efficient, in that it maximizes the value resulting from the production and consumption of the goods or services in question. However, marginal cost pricing will not always allow the vendor to recover all of its fixed and/or overhead costs. Raising rates above marginal cost results in revenues in excess of operating costs to provide a contribution to fixed costs, but these prices are inefficient in that they will act as a disincentive to maximum economic activity among some customers. The essence of Ramsey pricing is that it sets prices differentially across markets to allow additional revenue recovery while minimizing the deviation from optimal quantities. It does this by setting prices such that the *markup of price over marginal cost* is inversely related to the elasticity of demand. Because Ramsey pricing deviates from optimal or “first-best” marginal cost pricing but does so in a manner that minimizes deviations from optimal quantities, Ramsey pricing also is referred to as “second best” pricing

Because it bases pricing differentials on inverse demand elasticities, Ramsey pricing often has been characterized as a “demand-based” approach as opposed to a “cost-based” approach. However, Ramsey pricing also has a “cost-based” side, as the foundation for Ramsey pricing is marginal cost pricing, with markups being determined by what is necessary to recover fixed cost in a manner that minimizes quantity distortions. Thus, Ramsey pricing both blends and transcends cost-based and demand-based pricing. The determinants of the Ramsey prices are the elasticities of demand, operating costs, fixed costs, and market-specific costs.

The percentage reduction method departs from Ramsey principles by focusing on the maintenance of price level relationships. In an apparent effort to move toward demand-based pricing, the percentage reduction method abandons the basic foundation of Ramsey pricing – *i.e.*, the markup of price over marginal cost. The rationale for supporting an equal

percentage reduction in rates to maintain relative prices as exemplified in *TMPA* and *APS* is fundamentally flawed because it focuses on the wrong concept – the ratio of prices. As explained above, the proper focus should be the relative markups above marginal cost that characterize the various participants in the market under scrutiny. Moreover, price changes produced by the percentage reduction method are not consistent with price changes that would result from Ramsey pricing, because under true Ramsey pricing changes would be disproportionate and responsive to demand elasticities, not equal in percentage across the customer spectrum.

AEP Texas Op. at III-G-27 to 29.

The principal rationale supporting AEP Texas' GPRM is that it holds true to Ramsey principles by ensuring that those shippers whose demand elasticities exposed them to the greatest price mark-ups over marginal cost when overall carrier revenues were raised experience correspondingly greater price reductions when the SAC test points to a reduction in the overall SARR revenues. *See* AEP Op. at III-G-30 to 31. An *additional* factor weighing in its favor is that it mitigates or eliminates the gaming risk in cases where it may be present. *Id.* at 31. However, proof of gaming in this or any other case is not a prerequisite for the need for or validity of AEP Texas' GPRM.³⁶

After mischaracterizing AEP Texas' rationale for the GPRM as being directed solely at railroad gaming of the SAC test, BNSF renews its attack on the Board-

³⁶ As AEP Texas discusses in its Argument of Counsel, legal, precedential and practical considerations all militate in favor of the Board considering and adopting this reform in this case, rather than through the as-yet not begun rulemaking proceeding suggested in *PSCo/Xcel*.

approved practice³⁷ of including cross-over traffic in the TNR system by claiming that it is part of a two-dimensional “gaming” effort by AEP Texas. *See* BNSF Reply at III.G-27 to 28. As AEP Texas shows clearly and indisputably, revenues allocated to the residual BNSF from cross-over traffic on the TNR are more than sufficient to cover off-line costs,³⁸ and the traffic selected for inclusion in the TNR system logically would move over the assigned routes given the operating efficiencies and cost savings that result from the related economies of density. *See* pp. III-A-59 to 69, *supra*. As for BNSF’s claim that the inclusion of substantial volumes of cross-over traffic means that “any rate would be found to exceed the SAC maximum,”³⁹ one need only look to the decisions in *Duke/NS* and *Duke/CSXT*.

The theoretical musings of Messrs. Higgins and McChesney notwithstanding, there is absolutely no credible evidence that BNSF or any other railroad has refrained from establishing rates to some customers at particular levels out of a concern that higher rates might be used against them in a proceeding brought by some other customer. *See* BNSF Reply at III.G-28. To the contrary, the only public evidence strongly suggests that the large carriers now react to the threat of litigation before the STB by *raising* rates dramatically. *See Duke/NS* at 40; *CP&L* at 31. And the success

³⁷ *PSCo/Xcel* at 13-16; *TMPA* at 17 (“It is well established that a SAC presentation may include cross-over traffic.”).

³⁸ *See* Part III-A-3-c(i), *supra*.

³⁹ BNSF Reply at III.G-28.

that both eastern and western carriers recently have enjoyed in defending rates that are many multiples of the variable cost of service⁴⁰ hardly acts as a disincentive to the maximum exploitation of market dominance in individual customer contexts.

The “second dimension” of alleged shipper gaming argued by BNSF at pages III.G-28 to 29 of its Reply is a fantasy. The only rates that BNSF charged “pursuant to the Board’s prior prescription”⁴¹ were the rates for shipments from Rawhide that were in effect prior to April 18, 2004, the effective date of the Board’s March 19, 2004 prescription vacation order in *Docket No. 41191*. AEP Texas is seeking neither a reduction in these rates nor reparations for shipments that moved under them.

The rates on shipments from origins other than Rawhide have never been subject to a rate prescription, and neither they nor the current common carrier Rawhide rate carry any presumption of reasonableness or unreasonableness. The rates that are the subject of AEP Texas’ prayer for relief were set by BNSF in its own, unfettered discretion. *Cf. Docket No. 41191*, Decision served March 19, 2004 at 4. At all relevant times, BNSF has had the ratemaking initiative and was free to establish whatever rates it chose, subject only to the Board’s jurisdiction upon complaint after-the-fact. From the standpoint of the Board’s regulatory processes, the rates at issue in this proceeding are no different in nature from those set and litigated in prior coal rate cases, and properly

⁴⁰ See *PSCo/Xcel* at 41, 152-56; *CP&L* at 34-35, 136-43.

⁴¹ BNSF Reply at III.G-29.

are the starting point for whatever reduction allocation methodology the Board determines to apply.

b. BNSF’s “Alternative” Approach Arbitrarily Erodes The Benefit of Cross-Over Traffic And Conflicts With Board Precedent

BNSF’s unambiguous position – repeated *ad nauseam* throughout its Reply – is that any inclusion of cross-over traffic without an accompanying inclusion of all the costs associated with building and operating the rest of the residual incumbent’s system that is used by the traffic prior to or after handling by the SARR, should be prohibited. *See, e.g.*, BNSF Reply at III.A-1 to 16. Equally unambiguous, of course, is the Board’s rejection of this thesis in *PSCo/Xcel*⁴² and its predecessors, and the theoretical and practical legitimacy of including cross-over traffic under the SAC test. *See pp.* III-A-9 to 17, *supra*.

In Part III.G-5-c of its Reply, BNSF proposes an alternative to the percentage reduction methodology that it justifies solely on the basis that it “comes closer to replicating the results that would be achieved if the Board were to require shippers to forego use of cross-over traffic and, instead, to build all of the facilities required to replace the incumbent railroad for all traffic included in the stand-alone traffic group.” BNSF Reply at III.G-32. In other words, BNSF’s proposed change

⁴² *PSCo/Xcel* at 13-16; *see also Duke/CSXT* at 20-22; *TMPA* at 17. As the Board confirmed in *PSCo/Xcel*, “[t]he use of cross-over traffic to simplify the SAC presentation is a well established practice.” *Id.* at 13.

would increase SAC and raise captive coal rates specifically to erode or eliminate the benefits (to complainants) of density economies that the Board specifically has ruled should be recognized.⁴³ On this basis alone, BNSF's proposed "alternative" should be rejected.

BNSF proposes to lower (ideally to zero) the percentage by which the rate on the issue traffic in the SAC analysis is reduced by increasing the fractional denominator from the present value of the total stand-alone revenues to the value of those revenues *plus* the remaining revenues attributable to the entire through movement, which are allocated to the residual incumbent rather than the SARR. *See* BNSF Reply at III.G-30, 32. There is no explanation offered as to any particular economic logic behind this approach – though it does imply a certain symmetry vis-a-vis the DARA formula, which reduces the economic benefit of cross-over traffic by directly assigning more of the through movement revenue to the residual incumbent. Nor is any effort made to link the BNSF approach to Ramsey principles, as required by the *Guidelines*.⁴⁴

⁴³ BNSF essentially admits this in discussing the examples shown in its Table III.G-4. Pointing to the revenue allocation that completely nullifies the revenue benefit of cross-over traffic, BNSF approvingly states that this example "illustrates the point at which the complaining shipper should be indifferent as between (1) building the facilities necessary to handle the through movement and (2) purchasing the services of the residual incumbent to handle the traffic" BNSF Reply at III.G-33.

⁴⁴ This is in stark contrast to AEP Texas' GPRM, which is derived from and demonstrably faithful to Ramsey principles. *See* AEP Texas Op. at III-G-26 to 31.

If BNSF was right (and as shown, it is not) that the inclusion of cross-over traffic unreasonably distorts the SAC calculation, the obvious solution would be to exclude it from the SAC analysis, as BNSF itself argues.⁴⁵ Quite rightly, however, the Board rejected BNSF's distortion claims in *PSCo/Xcel* and its predecessors. Likewise, it should reject this latest, results-oriented effort to creep toward the same goal by manipulating the denominator of the percentage reduction fraction.

BNSF rather opaquely states that its modification “reflects the reality that, if the complaining shipper could have realized greater net benefit from constructing facilities necessary to handle the cross-over movements on an end-to-end basis, it would have done so.” BNSF Reply at III.G-30. It is unclear how this statement supports BNSF's proposal, assuming that is the carrier's intent. However, the fact is that if the shipper *did* stand to realize a greater benefit, it would include both the costs of the additional facilities and the additional revenues attributable to its handling the entire through movement in the SAC calculation. Under those circumstances, it then would be appropriate to include the full through movement revenue in the fractional denominator. However, doing the latter without the former, as BNSF suggests, simply manipulates the percentage reduction calculation in a manner that dilutes or (in BNSF's example) nullifies the revenue contribution that Board precedent confirms the shipper is entitled to realize from the decision to handle a share of the movement in cross-over service.

⁴⁵ See BNSF Reply at III.A-11 to 12.

**c. The Generalized Percentage Reduction
Methodology Is True To Ramsey Principles
And Should Be Adopted**

In its Opening Evidence, AEP Texas proposed the GPRM to allocate reductions in stand-alone revenues over costs among the members of the TNR traffic group. The GPRM is a generalization of the percentage reduction method currently employed by the Board. The central feature of this generalization is that the GPRM modifies the Board's methodology to be consistent with Ramsey pricing principles. In this way, the GPRM adheres far more closely to the Ramsey-based principles of Constrained Market Pricing.

By conforming to the principles of Ramsey pricing, the GPRM achieves several desirable objectives.

First, *the GPRM allocates rate relief in an efficient manner.* By allocating relatively greater rate relief to movements with less elastic demands, the greatest amount of total consumer surplus is recaptured.

Second, *the GPRM provides for fair and symmetric treatment of inelastic demands.* The Board, through its decisions and the CMP principles, has consistently recognized the need to be concerned with fairness in the pricing of captive traffic (the traffic with relatively inelastic demands). It is the inelastic demand traffic that shoulders the burden of the largest percentage markup in prices in order to address revenue

inadequacy. Equity dictates that these same shippers also enjoy the greatest percentage relief in times of excess revenue collection.

Third, *the GPRM remedies an existing inconsistency in how revenue inadequacy and excess revenue situations are treated.* Currently, the Board approves Ramsey pricing principles as the basis for the establishment of rates above marginal cost to serve the goal of revenue adequacy. However, the current percentage reduction method allocates rate relief equal-proportionately, regardless of how prices originally were marked up when revenue need was greater. Thus, it is inconsistent with Ramsey and demand-based pricing principles. *See* AEP Texas Op. at III-G-25 to 30. The GPRM remedies this inconsistency by providing for parallel treatment of situations of revenue inadequacy and situations of excess SARR revenue over SAC.

In its Narrative and the accompanying Declaration by its witnesses Higgins and McChesney (BNSF Reply Exhibit III.G-1), BNSF opposes the use of the GPRM on a number of grounds. The Higgins/McChesney Declaration is addressed specifically in the accompanying Declaration of Dr. Douglas W. Caves. *See* Rebuttal Exhibit III-G-18. As further described below, each is without merit.

BNSF first criticizes the use of MSP revenue allocations to develop mark-up ratios under the GPRM on the ground that they “could not possibly reflect demand” for through service. BNSF Reply at III.G-35 to 36. However, BNSF offers no support for the implicit notion that demand elasticities differ on different segments of a single

movement. In fact, the contrary is true. Demand elasticity is movement-specific in the sense that a shipper's dependency on a particular carrier is the same over the entirety of the movement.⁴⁶ Likewise, the rate set for the shipper's traffic reflects the demand elasticity of the entire movement, not its individual segments. Since the MSP methodology allocates revenue relatively smoothly⁴⁷ over the through movement, the demand elasticity reflected in the through rate apportioned by MSP likewise is carried through to the portion allocated to the TNR.

BNSF's next point – that the GPRM does not reflect shipper responses to rate reductions (BNSF Reply at III.G-36) – is rebutted by Board precedent. In *Nevada Power II*, the defendant argued that changes in the market resulting from the SARR's hypothetical entry as an optimally efficient railroad transporting coal at rates equal to or lower than the incumbent's should be taken into account in forecasting the revenues available to the SARR. The Board's predecessor rejected the argument, holding that consideration of post-entry market changes would distort the SAC analysis. *See Nevada Power II*, 10 I.C.C. 2d 259, 266-67 (1994). The same principles support the current rule (reflected in the GPRM) that future traffic volumes for a SARR are forecast without

⁴⁶ This is the essence of the “one lump” theory consistently applied by the Board in assessing the competitive impacts of railroad mergers. *See, e.g., Burlington Northern, – Merger – Santa Fe Pacific*, 10 I.C.C. 2d 661, 747-48 (1995).

⁴⁷ The only exceptions are the previously justified 100-mile blocks for origin and termination service.

regard to the impact that rate reductions by the SARR might have on the demand for service.⁴⁸

It also should be noted that neither BNSF nor its witnesses offer any evidence to support the assumption that the TNR shippers' demand for service would be affected meaningfully by reductions in transportation rates. In fact, the record shows that this is highly unlikely. On Opening, the CEMAS analysis of TNR shipper coal demand presented by AEP Texas (which BNSF did not challenge) showed that coal demand for units served by the TNR largely was a function of growing demand for electric generation and demographic shifts; rail rates played no discernable role. *See* AEP Texas Op. at III-A-24 to 35 and Exhibits III-A-9 to 12.

BNSF's claim that the GPRM is unreliable because the system average marginal cost calculations that it uses are not sufficiently movement-specific (BNSF Reply at III.G-36 to 40) is a fine example of allowing the perfect to be the enemy of the good.⁴⁹ Obviously, it is impractical to allocate stand-alone revenue reductions using a method that requires a precise, movement-specific calculation of the marginal cost of each movement in the SARR traffic group. However, the Board and its predecessor

⁴⁸ *See, e.g., PSCo/Xcel* at 53 (re-affirming the use of the EIA coal volume forecast, which has no component to account for regulatory rate reductions).

⁴⁹ It also rings of hypocrisy, given BNSF's promotion of the use of system averages to determine the variable cost of service for the specific coal movements at issue in this case.

routinely temper complex precision with practicality in the interests of developing a workable regulatory formula. *See, e.g., PSCo/Xcel* at 16; *Coal Rate Guidelines*, 1 I.C.C. 2d at 544. The question is not whether the average marginal cost approach is perfect; it is whether a revenue allocation approach that reflects differing demand elasticities is preferable to one which does not.

BNSF does not challenge the tenet that the method of allocating the excess of stand-alone revenues over SAC should reflect Ramsey principles, the same principles that are presumed to have guided the establishment of the incumbent's rates for the members of a SARR's traffic group.⁵⁰ *See CP&L* at 33; *Coal Rate Guidelines*, 1 I.C.C. 2d at 526. Nor does BNSF challenge the premise that under Ramsey principles, price increases over marginal (*i.e.*, economic) costs to satisfy increased overall revenue needs will reflect the demand elasticities of the customers experiencing the price increases. *See* BNSF Reply Exhibit III.G-1 at 2. It is acknowledged that a practical, system average approach such as that followed by AEP Texas is useful "as a rough indicator of economic costs." *Id.* at 532, n.31. In the absence of another, more precise (and equally

⁵⁰ BNSF's witnesses Higgins and McChesney suggest that the inclusion of cross-over traffic in SAC analyses prevents railroads from pricing their service using Ramsey principles, as they must "lower rates below Ramsey rates in an effort to placate shippers." *See* BNSF Reply Exhibit III.G-1 at 10. No empiric evidence is offered to support this conclusion, which is contrary to the publicly stated intentions of both western Class I coal carriers. *See* pp. III-A-77 to 80, *supra*.

practical) approach, it should be deemed superior to a formula that ignores altogether the relationship between price and marginal cost.

Finally, BNSF misses (or ignores) the point of GPRM with its claim that as implemented by AEP Texas, the model yields rates that are not equivalent to Ramsey prices. BNSF Reply at III.G-40 to 41. GPRM is not designed or intended to calculate Ramsey prices *per se*. GPRM's purpose is to provide a workable model which reduces individual rates as overall revenue needs decline in a manner proportionate to the way in which they are presumed to have been increased when revenues needed to be raised. The individual mark-ups over average marginal costs (which faithfully reflect Ramsey principles) are used to accomplish this. If the excess of stand-alone revenue over cost is exhausted under GPRM before a particular TNR customer experiences a rate reduction, that merely reflects the fact that that customer did not experience a rate increase beyond the level needed to achieve revenue adequacy in the first place.

III-H Results of SAC Analysis

III. H. RESULTS OF SAC ANALYSIS

1. Results of SAC Analysis

On Rebuttal, AEP Texas is presenting the same DCF model that it presented on Opening, updated to incorporate the changes discussed *supra*. As on Opening, AEP Texas has calculated SAC in the alternative, using both the generalized percentage reduction method described in AEP Texas Op. Part III-G-5(d) and in Part III-G-5, *supra*, and the equalized percentage reduction method employed by the Board in recent cases. The results of these calculations are shown in Rebuttal Exhibit III-H-3.

The calculations shown in each table in Rebuttal Exhibit III-H-3 are summarized below.¹

a. Road Property Investment Values

The calculation of road property investment costs is summarized in Table C. As discussed in Part III-G-4, *supra*, AEP Texas continues to include hiring and training costs as part of road property investment costs to comply with GAAP.

b. Interest During Construction

Table D presents both the total Interest During Construction (“IDC”) that accrues on the TNR’s assets during construction and the amount that is debt-related. The IDC is calculated from the composite cost of capital in Table A, the investment values in

¹ The cost of capital (Table A) and inflation indices (Table B) are addressed in Parts III-G-1 and III-G-2, *supra*, respectively.

consistent with the STB methodology in all previous maximum rate cases. This additional investment is added to the initial investment in Table I prior to determining the quarterly cash flows.

e. **Tax Depreciation Schedules**

Table G displays the tax depreciation required under the Federal Tax Code as currently in effect.² Investment in communications (Account 26), signals and interlockers (Account 27), and the track accounts (Accounts 8-12) were depreciated over seven (7) years employing a 200 percent declining balance methodology switching to straight-line depreciation when the straight line percentage exceeds the declining balance percentage. Investment in bridges and culverts (Account 6), public improvements (Account 39), fences and roadway signs (Account 13), station and office buildings (Account 16), roadway buildings (Account 17), fuel stations (Account 19) and shops and engine houses (Account 20) were depreciated over 15 years using a 150 percent declining balance method switching to straight-line depreciation. Investments in grading (Account 3) were amortized over 50 years using straight-line amortization. Investments in engineering (Account 1) and training and hiring costs were amortized over five (5) years using straight-line amortization.

² The mandatory method for depreciating most tangible property placed in service after December 31, 1986 is the Modified Accelerated Cost Recovery System ("MACRS"). In addition, Business Start-Up Costs, such as Engineering and Training Costs, have been amortized over a 60 month period, starting with the month in which the business begins.

recovery stream reflects the tax benefits associated with interest on the investment financed with debt from Table E and the road property tax depreciation from Table G.

The cash flow shown in Column (8) of Table I is the amount remaining each quarter after the payment of federal and state tax liabilities. This cash flow is used for payment of return on and return of total investment in the TNR. This quarterly figure is then discounted by the fourth root of the composite annual cost of capital from Table A, adjusted to reflect the assets being placed in service on June 16, 2000. The present value cash flow is then summed for each quarter along with the future cash flow and the total equals the total cost that must be recovered. The future cash flow is the residual value of the unconsumed assets and remaining tax liabilities (remaining interest and depreciation) of the TNR and serves to reflect the cash flow required to account for the value of the assets not consumed during the 20.54 year life of the DCF model.

The development of the quarterly levelized capital carrying charge requirement is a relatively simple calculation, *i.e.*, starting capital carrying charge requirement times the quarterly tonnage volume, times the quarterly index factor from Table H which will recover total investment during the 83 period DCF model. The starting capital carrying charge requirement which recovers the total investment is developed through an iterative process. The DCF model begins with a specified amount and then runs through the calculation described above to develop the cumulative present value of the cash flow. If this cumulative number does not equal the total costs to be

and the annual operating expenses from Table K are presented and summed in Table L for each year that the TNR operates.

2. Reparations

In this subpart, AEP Texas compares the BNSF rates at issue in this case to the jurisdictional threshold prescribed by 49 U.S.C. § 10707(d)(1)(A) and the calculation of stand-alone costs attributable to the transportation of coal from PRB origin mines to the Oklaunion Station in carrier-supplied railcars. Because the challenged rates exceed both the jurisdictional threshold and SAC in each quarter of the 2000-2020 DCF period, AEP Texas is entitled to relief in the form of a maximum rate prescription and an award of reparations for coal shipments that moved while the challenged rates were in effect.

a. Maximum Rate Calculations

The maximum lawful rate for the transportation of coal from PRB origins to the Oklaunion Station equals the greater of the jurisdictional threshold or stand-alone costs. Table III-H-4 compares BNSF's rate levels (Column (2)) to the jurisdictional threshold calculation (Column (4)) and the stand-alone cost (Column (5)). BNSF's rates for the AEP Texas movement are greater than both the jurisdictional threshold and stand-alone cost for all relevant time periods. The maximum reasonable rates equal the greater of the jurisdictional threshold or stand-alone cost and are summarized in Column (6) of Table III-H-4.

Cordero Mine Originations						
2Q03	\$18.04	\$6.87	\$12.37	\$10.27	\$12.37	
North Rochelle Mine Originations						
3Q02	\$17.25	\$7.33	\$13.19	\$9.95	\$13.19	
4Q03	18.04	6.72	12.10	10.27	12.10	
Antelope Mine Originations						
4Q03	\$18.04	\$5.97	\$10.75	\$10.27	\$10.75	
1Q04	18.83	7.06	12.71	10.09	12.71	

<u>1/</u>	The Pricing Letters.
<u>2/</u>	Rebuttal Exhibit II-A-151.
<u>3/</u>	Column (3) x 180 percent.
<u>4/</u>	Rebuttal Exhibit III-H-3.
<u>5/</u>	Greater of jurisdictional threshold (Column (4)) or stand-alone cost (Column (5)).

The maximum reasonable rates for PRB coal shipments to Oklaunion are lower than the rates established and sought to be charged by BNSF from the Third Quarter of 2000 through the end of the DCF period in 2020. Therefore, the issue of reparations must be addressed.

b. Reparations Calculation

As described in Part I, *supra*, since the Fall of 2000 AEP Texas has been paying BNSF \$13.68 per ton for coal transportation service from non-Rawhide mine origins to Oklaunion, pending a final ruling by the Board on the merits of AEP Texas' challenge (now presented in this docket) to the reasonableness of the rates that BNSF otherwise has established and sought to charge.⁴ For purposes of SAC and the determination of rate reasonableness, AEP Texas' calculations use the BNSF-established

⁴ As noted at pp. I-4 and I-6 of AEP Texas Opening, *supra*, this payment practice initially was employed by agreement of the parties, and subsequently was upheld by the rulings of two federal courts.

Table III-H-5
Aggregate Overpayments
2Q00 though 2Q04
(\$ In Millions)

<u>Quarter</u>	<u>Aggregate Revenues</u> ^{1/}	<u>Aggregate Stand-Alone Costs</u> ^{1/}	<u>Aggregate Overpayments</u> ^{2/}
(1)	(2)	(3)	(4)
2Q00	\$22.3	\$30.7	\$8.4
3Q00	135.8	188.3	52.5
4Q00	136.3	188.3	52.0
1Q01	141.6	190.8	49.2
2Q01	141.3	190.8	49.5
3Q01	141.6	190.8	49.2
4Q01	141.5	190.8	49.3
1Q02	134.9	191.2	56.3
2Q02	133.6	191.2	57.6
3Q02	133.0	191.2	58.2
4Q02	132.4	191.2	58.8
1Q03	130.7	187.5	56.8
2Q03	134.4	187.5	53.1
3Q03	134.5	187.5	53.0
4Q03	134.4	187.5	53.1
1Q04	139.4	197.6	58.2
2Q04	140.0	197.6	57.6

^{1/} Source: Rebuttal Exhibit III-H-3.

^{2/} Column (2) minus Column (3).

Table III-H-6
Principal Amount of Reparations Due AEP Texas
From June 16, 2000 Through June 20, 2004
(\$ in Millions)

<u>Quarter</u>	<u>Amount</u>
(1)	(2)
2Q 2000 ^{1/}	\$0.3
3Q 2000	1.7
4Q 2000	1.2
1Q 2001	0.8
2Q 2001	0.6
3Q 2001	0.6
4Q 2001	1.0
1Q 2002	0.5
2Q 2002	0.5
3Q 2002	0.4
4Q 2002	0.1
1Q 2003	0.1
2Q 2003	0.3
3Q 2003	0.7
4Q 2003	0.7
1Q 2004	0.4
2Q 2004 ^{2/}	<u>0.3</u>
Total	\$10.2

^{1/} Begin June 16, 2000.

^{2/} Through June 20, 2004.

Source: Rebuttal Exhibit III-H-4 and electronic workpaper "AEP Texas Reb Reparations.123."

IV Witness Qualifications and Verifications

IV. WITNESS QUALIFICATIONS AND VERIFICATION

This Part contains the Statement of Qualifications and Verifications of two additional witnesses who have not previously sponsored evidence on behalf of AEP Texas in this proceeding. It also contains the Verifications of AEP Texas's other witnesses, whose Statements of Qualifications appear in Part IV of AEP Texas's Opening and Reply Narratives.

1. GEORGE L. DONKIN

Mr. Donkin is an economist and Vice President of J.W. Wilson & Associates, an economic consulting firm specializing in energy economics, public utility regulation, antitrust, business and property valuation, telecommunications and other topics in the field of economics. His offices are located at Rosslyn Plaza C, Suite 1104, 1601 North Kent Street, Arlington, Virginia 22209. The specific rebuttal evidence that Mr. Donkin is sponsoring relates to the sources and cost of diesel fuel delivered to the SARR at Alliance, NE and Las Animas Jct., CO, in Part III-D-1-d.

From the summer of 1971 through February of 1974, Mr. Donkin was employed as an industry economist at the Federal Power Commission ("FPC") (the predecessor of the Federal Energy Regulatory Commission). Since 1974, Mr. Donkin has worked as a consulting economist specializing in oil and natural gas economics, public utility regulation and antitrust economics, with a particular focus on economic and competitive issues in the petroleum natural gas industries. Mr. Donkin has consulted for

a wide range of clients including federal and state government agencies, state utility commissions, public and private gas and electric utilities, gas pipelines, oil and gas producers, gas marketers, industrial firms and non-profit organizations. Mr. Donkin has performed numerous economic analyses of the cost of delivering natural gas and petroleum products by pipeline, including the cost constructing pipelines to transport these commodities.

Mr. Donkin has appeared as an expert witness on energy, regulatory and antitrust matters on over 100 occasions, in federal and state courts, before regulatory commissions and arbitration panels, and before the United States Congress.

Mr. Donkin holds a Bachelor of Arts degree and a Masters degree in economics from the University of Maryland. His major fields of study were industrial organization, antitrust economics, and institutional economics.

VERIFICATION

I, George L. Donkin, verify under penalty of perjury that I have read the Rebuttal Evidence of AEP Texas in this proceeding that I have sponsored, as described in the foregoing Statement of Qualifications; that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

A handwritten signature in black ink, appearing to read "George L. Donkin", written over a horizontal line.

George L. Donkin

Executed on: July 23, 2004

2. RICHARD MCDONALD

Mr. McDonald is president of RHM Consulting, Inc., a consulting firm specializing in railroad engineering and transportation matters. His business address is 516 W. Shady Lane, Barrington, Illinois. Mr. McDonald is sponsoring the portion of AEP Texas' Rebuttal evidence relating to the SARR construction schedule, construction costs, and engineering and contingency additives in Part III-F-10 and 11.

Mr. McDonald has over 40 years of experience in the railroad engineering and operations fields, primarily at the former Chicago and North Western Transportation Company ("CNW") which is now part of the Union Pacific system. He began his railroad career in 1958 at the New York Central Railroad, where he held positions as Assistant Engineer, Roadmaster and Division Engineer (for both the New York Central and Penn Central). In 1974 Mr. McDonald left Penn Central and joined CNW, where he held several positions of increasing responsibility in the Engineering and Operating Departments including Assistant Division Manager-Engineering and later Division Manager at St. Paul, MN; Vice President-Western Railroad Properties, Inc. ("WRPI"); Vice President-Operating Administration; Vice President-Transportation, Vice President-Operations, and Vice President-Planning & Acquisitions.

Mr. McDonald founded RJM Consulting in 1994, after retiring from CNW. Since that time Mr. McDonald has successfully completed numerous rail engineering/operating consulting assignments relating to matters such as rail line construction projects

(including the proposed construction of a new line into the Powder River Basin by the Dakota, Minnesota & Eastern Railroad and the upgrading of DME's existing line to handle coal trains), rail line structure and rehabilitation projects, proposals to construct build-outs from rail shipper facilities, and rail line abandonments and valuations.

As Vice President–WRPI from 1981 to 1984, Mr. McDonald was responsible for all facets of CNW's project to construct more than 100 miles of new railroad lines and associated facilities (the WRPI line) necessary to enable CNW to serve the Powder River Basin mines in the portion of the PRB located south of Gillette, WY. Mr. McDonald also had responsibility for CNW's acquisition of a one-half interest in the portion of BN's (now BNSF's) Orin Subdivision (a/k/a the Joint Line) between Caballo Junction and Shawnee Junction, WY and connecting the WRPI line to the Joint Line. Mr. McDonald also was responsible for implementing the operating plan for WRPI, which was the CNW subsidiary on whose behalf CNW constructed the PRB lines and operated them from the completion of initial construction in mid-1984 until CNW's acquisition by UP in mid-1995.

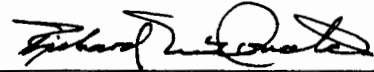
Mr. McDonald graduated from the University of Illinois, College of Engineering with a Bachelor of Science degree in Engineering in 1957. Mr. McDonald also completed the following certificate programs: Railroad Engineering, University of Illinois, 1975; Management for Engineers, University of Iowa, 1976; Accounting for the

Non-Accounting Executive, Wharton School, University of Pennsylvania, 1977; and Railroad Profit Strategy, Kellogg Center, Northwestern University, 1990.

Mr. McDonald is a member of the American Railway Engineering Association and the Chicago Maintenance of Way Club. Mr. McDonald has served on the Board of Directors of the Peoria & Pekin Union Railway and Minnesota Transfer Properties, Inc.

VERIFICATION

I, Richard McDonald, verify under penalty of perjury that I have read the Rebuttal Evidence of AEP Texas in this proceeding that I have sponsored, as described in the foregoing Statement of Qualifications; that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

A handwritten signature in black ink, appearing to read 'Richard McDonald', written over a horizontal line.

Richard McDonald

Executed on: July 14, 2004

VERIFICATION

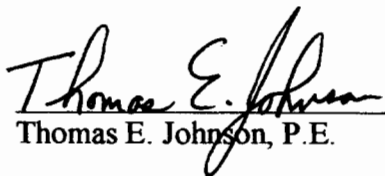
I, Joseph Plaistow, verify under penalty of perjury that I am the same Joseph Plaistow whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas' Opening Evidence in this proceeding; that I am responsible for the portion of AEP Texas' Rebuttal Evidence in this proceeding related to quantitative market dominance, and specifically the defendant railroad's variable cost of transporting the Complainant's traffic, contained in Part II-A-1 through II-A-5; that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.


Joseph Plaistow

Executed on: July 20, 2004

VERIFICATION

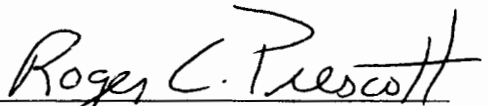
I, Thomas E. Johnson, P.E., verify under penalty of perjury that I am the same Thomas E. Johnson, P.E., whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas' Reply Evidence in this proceeding; that I am responsible, along with Joseph Plaistow, for the portion of AEP Texas' Rebuttal Evidence related to Locomotive Fuel Consumption in Part II-A; that I know the contents thereof and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.


Thomas E. Johnson, P.E.

Executed on: July 22 2004

VERIFICATION

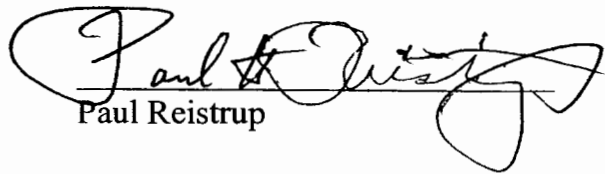
I, Roger C. Prescott, verify under penalty of perjury that I am the same Roger C. Prescott whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to variable maintenance-of-way costs, contained in Part II-A; that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.


Roger C. Prescott

Executed on: July 14, 2004

VERIFICATION

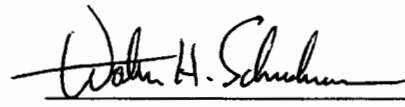
I, Paul Reistrup, verify under penalty of perjury that I am the same Paul Reistrup whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to the SARR system, operating plan and operating expenses (Parts III-B, III-C, and III-D), except for information technology expenses presented in Part III-D; that I corroborated with (and supervised) AEP Texas witness Walter Schuchmann in performing the Rebuttal RTC Model simulation of the TNR's train operations for purposes of refining the TNR's track and yard configuration, verifying the feasibility of its operating plan, and developing certain operating statistics used in determining the TNR's annual operating expenses for purposes of the DCF model; that I also assisted AEP Texas's maintenance-of-way witnesses, William L. Krestinksi and Alan J. Blackwell, in developing AEP Texas' Rebuttal evidence in Part III-D-4 pertaining to the TNR's annual maintenance-of-way operating expenses; that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.


Paul Reistrup

Executed on: July 22, 2004

VERIFICATION

I, Walter H. Schuchmann, verify under penalty of perjury that I am the same Walter H. Schuchmann whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible, along with Mr. Reistrup, for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to the configuration and capacity of the SARR system contained in Parts III-B and III-C, in particular, the Rebuttal RTC Model simulation of the TNR's peak-period train operations using the revised operating inputs developed by AEP Texas Witness Paul Reistrup for purposes of refining the SARR's track and yard configuration and confirming the SARR's feasibility and capacity to handle its peak-period traffic efficiently; that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.


Walter H. Schuchmann

Executed on: July 23, 2004

Washington, District of Columbia

The foregoing instrument was acknowledged before me this
23rd day of July, 2004

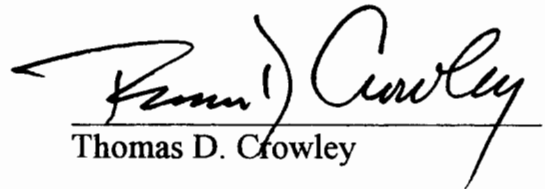
by Walter H. Schuchmann
Gwendolyn M. Perrin Notary Public

My commission expires _____

Gwendolyn M. Perrin
Notary Public, District of ~~Columbia~~
My Commission Expires 9-14-04

VERIFICATION

I, Thomas D. Crowley, verify under penalty of perjury that I am the same Thomas D. Crowley whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to the selection of the SARR traffic group, identification of base year traffic and revenues and revenue divisions (Part III-A-1 to 3), identification of the SARR peak traffic period and peak period loaded train counts (part of Part III-B-1), development of the peak year traffic density by line segment and identification of movements in railroad-owned cars (part of Part III-C-1), the SARR operating statistics peaking factor (part of Part III-C-1-b), the SARR cost of capital, road property indices and future productivity prospects (Part III-G-1 to 2), the proper methodology for allocating rate reductions to account for the excess of stand-alone revenues over stand-alone costs (Part III-G-5), and the DCF analysis and reparations (Part III-H);^{1/} that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.


Thomas D. Crowley

Executed on: July 21, 2004

^{1/} The evidence in Part III-G-2 with respect to the indexing of operating expenses and in Part III-G-5 is being co-sponsored by AEP Texas' witnesses Caves, Eakin, Meitzen and Whitehurst.

VERIFICATION

I, Douglas W. Caves, Ph.D, verify under penalty of perjury that I am the same Douglas W. Caves, Ph. D whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible, along with Dr. Eakin and Dr. Meitzen, for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to the proper method of indexing stand-alone operating costs (Part III-G-2) and the proper method for allocating rate reductions to account for the excess of stand-alone revenues over stand-alone costs (Part III-G-5);¹ that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.



Douglas W. Caves, Ph. D

Executed on July 22, 2004

¹ The evidence in Parts III-G-2 and III-G-5 is being co-sponsored by AEP Texas' witnesses Crowley and Whitehurst.

VERIFICATION

I, B. Kelly Eakin, Ph.D, verify under penalty of perjury that I am the same B. Kelly Eakin, Ph.D whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible, along with Dr. Meitzen and Dr. Caves, for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to the proper method of indexing stand-alone operating costs (Part III-G-2) and the proper method for allocating rate reductions to account for the excess of stand-alone revenues over stand-alone costs (Part III-G-5);¹ that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.



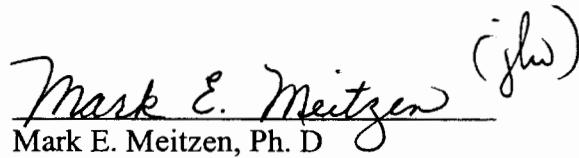
B. Kelly Eakin, Ph.D

Executed on: July 29, 2004

¹ The evidence in Parts III-G-2 and III-G-5 is being co-sponsored by AEP Texas' witnesses Crowley and Whitehurst.

VERIFICATION

I, Mark E. Meitzen, Ph.D, verify under penalty of perjury that I am the same Mark E. Meitzen, Ph. D whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible, along with Dr. Eakin and Dr. Caves, for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to the proper method of indexing stand-alone operating costs (Part III-G-2) and the proper method for allocating rate reductions to account for the excess of stand-alone revenues over stand-alone costs (Part III-G-5);¹ that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

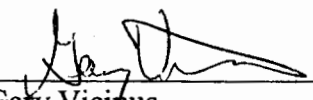

Mark E. Meitzen, Ph. D

Executed on July 22, 2004

¹ The evidence in Parts III-G-2 and III-G-5 is being co-sponsored by AEP Texas' witnesses Crowley and Whitehurst.

VERIFICATION

I, Gary Vicinus, verify under penalty of perjury that I am the same Gary Vicinus whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible, along with Mr. Holland and Mr. Meyers for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to projections of future SARR coal traffic volumes and revenues, contained in Part III-A; that I know the contents thereof; and that the same are true and correct to the best of my knowledge, information and belief. Further, I certify that I am qualified and authorized to file this statement.



Gary Vicinus

Executed on: July 22, 2004

VERIFICATION

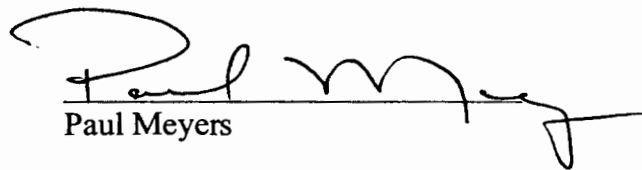
I, Arthur Holland verify under penalty of perjury that I am the same Arthur Holland whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible, along with Mr. Vicinus and Mr. Meyers for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to projections of future SARR coal traffic volumes and revenues, contained in Part III-A; that I know the contents thereof; and that the same are true and correct to the best of my knowledge, information and belief. Further, I certify that I am qualified and authorized to file this statement.


Arthur Holland

Executed on: July 20, 2004

VERIFICATION

I, Paul Meyers, verify under penalty of perjury that I am the same Paul Meyers whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible, along with Mr. Holland and Mr. Vicinus for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to projections of future SARR coal traffic volumes and revenues, contained in Part III-A; that I know the contents thereof; and that the same are true and correct to the best of my knowledge, information and belief. Further, I certify that I am qualified and authorized to file this statement.

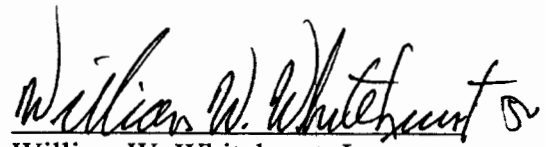


Paul Meyers

Executed on: July 20, 2004

VERIFICATION

I, William W. Whitehurst, Jr., verify under penalty of perjury that I am the same William W. Whitehurst, Jr. whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to the indexing of SARR operating expenses contained in Part III-G-2 and the proper methodology for allocating rate relief among members of the SARR traffic group contained in Part III-G-5;¹ that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

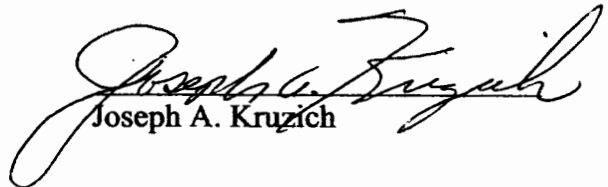

William W. Whitehurst, Jr.

Executed on: July 20, 2004

¹ The evidence in Parts III-G-2 and III-G-5 is being co-sponsored by AEP Texas' witnesses Caves, Eakin, Meitzen and Crowley.

VERIFICATION

I, Joseph A. Kruzich, verify under penalty of perjury that I am the same Joseph A. Kruzich whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to the SARR's information technology capital (hardware) and personnel requirements and related operating expenses for the SARR, contained in Part III-D-3-d; that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.


Joseph A. Kruzich

Executed on: July 19, 2004





VERIFICATION

I, William L. Krestinski, verify under penalty of perjury that I am the same William L. Krestinski whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible, along with Mr. Blackwell, Mr. Stone and Mr. Reistrup, for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to the stand-alone railroad's annual maintenance-of-way costs, contained in Part III-D-4; that I know the contents thereof; and that the same are true and correct. In addition, I am sponsoring the TNR's G&A engineering staff and compensation (Part III-D-3).¹ Further, I certify that I am qualified and authorized to file this statement.



William L. Krestinski

Executed on: July 26, 2004

¹ Although AEP Texas' Opening Narrative explained that I had sponsored this portion of the TNR's G&A evidence, that information was inadvertently omitted from the accompanying verification.

VERIFICATION

I, Alan J. Blackwell, verify under penalty of perjury that I am the same Alan J. Blackwell whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible, along with Mr. Krestinski, Mr. Stone and Mr. Reistrup, for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to maintenance-of-way expenses for the SARR, contained in Part III-D-4; that I know the contents thereof; and that the same are true and correct. In addition, I am sponsoring the TNR's G&A engineering staff and compensation (Part III-D-3).¹ Further, I certify that I am qualified and authorized to file this statement.


Alan J. Blackwell

Executed on: July 19, 2004

¹ Although AEP Texas' Opening Narrative explained that I had sponsored this portion of the TNR's G&A evidence, that information was inadvertently omitted from the accompanying verification.

VERIFICATION

I, Harvey H. Stone, verify under penalty of perjury that I am the same Harvey H. Stone whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to maintenance-of-way contained in Part III-D-4 and road property investment contained in Part III-F for the SARR;¹ that I know the contents thereof; and that the same are true and correct. In addition, I am sponsoring the TNR's G&A engineering staff and compensation (Part III-D-3).² Further, I certify that I am qualified and authorized to file this statement.



Harvey H. Stone

Executed on: July 15, 2004

¹ The maintenance-of-way evidence in Part III-D-4 is being co-sponsored by AEP Texas witnesses William Krestinski, Alan Blackwell and Paul Reistrup. The road property investment evidence in Part III-F is being co-sponsored by AEP Texas witnesses Oakleigh Throne (land valuation), John Mullan (microwave communications system), Douglas Ellison (locomotive maintenance and fueling facilities), and Brian Bastow (photographs/description of existing BNSF lines and facilities replicated by the stand-alone railroad).

² Although AEP Texas' Opening Narrative explained that I had sponsored this portion of the TNR's G&A evidence, that information was inadvertently omitted from the accompanying verification.

VERIFICATION

I, Brian N. Bastow, verify under penalty of perjury that I am the same Brian N. Bastow whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible, along with Mr. Stone, Mr. Ellison and Mr. Swanson, for the portion of AEP Texas's Rebuttal Evidence in this proceeding in Part III-F describing the present condition and photographs of the BNSF lines and facilities being replicated by the TNR as a result of a field trip I took in November 2003, along with Mr. Ellison and Mr. Swanson, as well as a field trip I took in January 2004, to inspect all of the BNSF lines and facilities being replicated by the TNR, that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

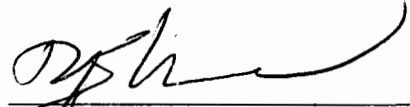
A handwritten signature in black ink, appearing to read 'B. N. Bastow', written over a horizontal line.

Brian N. Bastow

Executed on: July 19, 2004

VERIFICATION

I, Douglas J. Ellison, verify under penalty of perjury that I am the same Douglas J. Ellison whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible, along with Mr. Stone, Mr. Bastow and Mr. Swanson, for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to road property investment for the SARR (excluding land valuation and microwave communications), and in particular the size and cost of the TNR's locomotive maintenance and fueling facilities, contained in Part III-F; that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.



Douglas J. Ellison

Executed on: July 5, 2004

VERIFICATION

I, Daniel P. Swanson, verify under penalty of perjury that I am the same Daniel P. Swanson whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible, along with Mr. Stone, Mr. Ellison and Mr. Swanson, for the portion of AEP Texas's Rebuttal Evidence in this proceeding in Part III-F describing the present condition and photographs of the BNSF lines and facilities being replicated by the TNR as a result of a field trip I took in November 2003, along with Mr. Ellison and Mr. Bastow, to inspect all of the BNSF lines and facilities being replicated by the TNR, that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

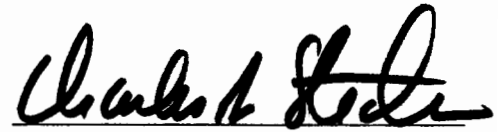


Daniel P. Swanson

Executed on: July 15, 2004

VERIFICATION

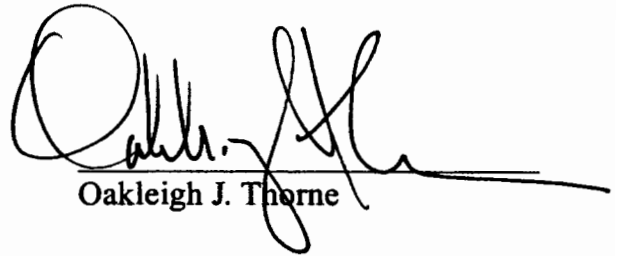
I, Charles A. Stedman, verify under penalty of perjury that I am the same Charles A. Stedman whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible, along with Mr. Stone for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to the roadbed preparation/earthworks component of the road property investment cost of the SARR, exclusive of culverts, roadbed specifications and yard drainage, contained in Part III-F-2; that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.


Charles A. Stedman

Executed on: July 10, 2004

VERIFICATION

I, Oakleigh J. Thorne, verify under penalty of perjury that I am the same Oakleigh J. Thorne whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to the appraisal and determination of unit-land prices for the acquisition of the right-of-way for the SARR, contained in Part III-F-1; that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

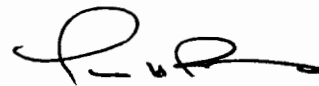


Oakleigh J. Thorne

Executed on: July 14, 2004

VERIFICATION

I, Philip H. Burris, verify under penalty of perjury that I am the same Philip H. Burris whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to the development of locomotive lease, maintenance, and servicing costs (Part III-D-1), rail car lease and maintenance costs and rail car mileage costs for foreign and private cars (Part III-D-2), compensation levels for the SARR train and engine crews, other operating employees and nonoperating (General & Administrative) personnel, material and supplies expenses for operating and nonoperating personnel, and personnel training and recruiting costs for all TNR employees (Part III-D-3), leased facilities costs (Part III-D-5), loss and damage costs (Part III-D-6), development of insurance cost (Part III-D-7), Ad Valorem taxes (Part III-D-8), determining the location and valuation of easements along right-of-way of SARR (Part III-F-1), and development of land value index for use in the DCF model (Part III-G-2); that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.

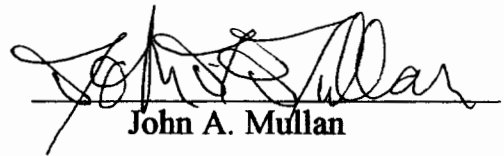


Philip H. Burris

Executed on: July 20, 2004

VERIFICATION

I, John A. Mullan, verify under penalty of perjury that I am the same John A. Mullan whose Statement of Qualifications appears in Part IV of the Narrative portion of AEP Texas's Opening Evidence in this proceeding; that I am responsible for the portion of AEP Texas's Rebuttal Evidence in this proceeding related to the SARR's microwave communications and radio system and its costs presented in Part III-B-4-c and III-F-6; that I know the contents thereof; and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.



John A. Mullan

Executed on: July 12, 2004